

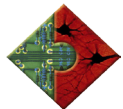
DREXEL BIOMED

*School of Biomedical Engineering,
Science & Health Systems*

Commencement & Honors Celebration **2009**



*Celebrating our Future
by Honoring our Past*



Commencement & Honors Celebration 2009

School of Biomedical Engineering, Science, & Health Systems

COMMENCEMENT & HONORS CELEBRATION

Thursday, June 11, 2009. 5:30 PM

Behrakis Hall – Creese Student Center

(Creese Student Center is located on Chestnut Street, between 32nd and 33rd Streets)

Program of Events

WALK OF FAME POSTER VIEWING AND RECEPTION – 5:30 PM

RECOGNITION PROGRAM AND DINNER – 6:30 PM

Welcome and Greeting by Banu Onaral, Director

Special Recognitions

- Faculty and Staff
- Outstanding Translational Research Faculty – Ari Brooks
- Outstanding Teaching Faculty – Don McEachron
- Outstanding Adjunct Faculty – Neal Handly, Andres Castellanos, and Peter Kurnik
- Distinguished Service – Melissa England
- Distinguished Mentor – Richard Caruso

Remarks by Distinguished Mentor Richard Caruso

Presentation of Graduating Students

- Undergraduate Students
- Graduate Students

Remarks by Graduating Students

- Undergraduate Student Speaker – Priyanka Shah
- Graduate Student Speaker – Vishal Kamat

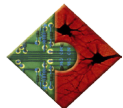
Student Awards and Honors

- Walk of Fame Poster Winners
- Student Accomplishments and Highlights

Faculty and Staff Awards and Honors

- Faculty and Staff Accomplishments and Highlights

Closing Remarks by Fred Allen and Margaret Wheatley



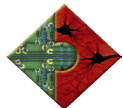
GRADUATING CLASS OF 2009

Undergraduate Students

BS in Biomedical Engineering

Mawar Deeyana Abdul Manan
Christopher Arif Abdullah
Jason M. Abe
Hassan Muhammad Ahmad
Daniel Alexander
Shawn James Anderson
Giang Hoang Thuy Au
Dale Spencer Babcock
Brandon John Bachert
Radha M. Bakshi
Amanda Elizabeth Barr
Burcu Basar
Rosemary Bastian Arangassery
Lauren Elizabeth Bentley
Sunny Deepak Bhalla
Paarth Bhonsle
William Borrell
Ren Calhoun
Daniel M. Caplan
Alice Chou
Alexis Rachel Cohen
Catena Marie Crozier-Fitzgerald
Neil Dhulesia
Daniella DiLacqua
Joseph R. Erthal
Nicholas P. Favorito
Matthew J. Fenn
Victoria Lynn Ferrari
Olga T. Filippova
Kevin J. Freedman
Tina P. Geevarghese
Collin Douglas Hair
Stefanie J. Hallman
Jill N. Heinly
Elizabeth Anne Henning
Anusha Janardhana
Tony Sam John
Pooja S. Kapoor
Seema Kara
Jennifer Giles King
James Thomas Kolb
David LaBarca

Remberd F. Lederer, Jr.
Renee Melinda Levine
Selena Lin
Ji-Young M. Lo
Anuj Mahajan
Melanie Amber Marczak
Kyle Martin
Vera Mayo
Dylan Giovanni Membrino
Edel Mendoza
Julie Rachel Miller
Adharsh Reddy Moranganti
Andrew Kenneth Moriarity
Munir Syed Nahri
Joseph Michael Neal
Ryan Matthew Nelling
Thao Nguyen Hong
Manish Bhikhabhai Patel
Akash Manoj Patel
Hina C. Patel
Zankhana Patel
Zachary Dayhoff Peksa
Phitha Philip
Stephen A. Pollani
Rehman Ahmed Qureshi
Ajay Bahuman Rao
Byron J. Ruth
Ashlyn N. Sakona
Priyanka Preyas Shah
Nidhi Sheth
Karfar B. Siryon
Kristen J. Smith
Preethem Srinath
Aswin Kaushik Sundarakrishnan
Linh Ngoc Tong
Radhika Upadrasta
Justin M. Wolfgang
Preeti Yadav
Igor Zabrodin
Jason R. Zappacosta
Daniel Jacob Zimmerman



GRADUATING CLASS OF 2009

Graduate Students

MS in Biomedical Science

David Webster Boorman
Nicholas J. DePrimo

Sandra Griffith
Jay Brandon Knight

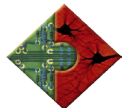
GRADUATING CLASS OF 2009

Graduate Students

MS in Biomedical Engineering

Christopher Arif Abdullah
Giang Hoang Thuy Au
Justin Daniel Belickis
Lauren Elizabeth Bentley
Monali Bhupendra Bhansali
Paarth Bhonsle
Daniel M. Caplan
Dhanush Chandrasekaran
Anant Chopra
Lauren Ciccarella
Mete Egemen
John Eisenbrey
Savitha Jennifer Fernandes
Kevin T. Filipiak
Kevin J. Freedman
Gaurav Gandhi
Tina P. Geevarghese
Adam Greenspan
Stefanie J. Hallman
Tony Sam John
Vishal Gopalkrishna Kamat
Steven F. Kemeny
Jennifer Giles King
Jasmine Kohli
James Thomas Kolb
Nithya Konduru
Ramya Krishnan
David LaBarca
Selena Lin
Kalyan Chakravarthy Lnu
Ji-Young M. Lo
Mridul Sitaram Mall
Ankita Mishra
Sakya Sing Mohapatra
Joseph Michael Neal

Pranali Dayanand Pai
Hina C. Patel
Jigar Ashvin Patel
Phitha Philip
Adam B. Quinney
Kavitha Rajendran
Ajay Bahuman Rao
Angeline Sampath Kumar
Priyanka Preyas Shah
Bhavesh Vinitkumar Sheth
Nidhi Sheth
Fiona Melanie Sirur
Ryan L. Siskey
Aswin Kaushik Sundarakrishnan
Surya Sreeram Vissapragada Venkata Satya
Preeti Yadav
Igor Zabrodin



GRADUATING CLASS OF 2009

Graduate Students

PhD in Biomedical Science

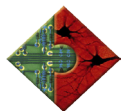
Gregory Fridman

GRADUATING CLASS OF 2009

Graduate Students

PhD in Biomedical Engineering

Johann Desa
Ertan Ergezen
Aiman Amir Fadel
Michael Patrick Gormley
Brian Ray Hipszer
Kurtulus Izzetoglu
Vishal Gopalkrishna Kamat
Usmah Kawoos
Andrew Khair
Seunglee Kwon
Mark Justin Mondrinos
Kelleny Oum
Sarah Rosen
Mihir S. Shanbhag
Jinyong Wee



STUDENT AWARDS AND HONORS SPECIAL STUDENT RECOGNITIONS

WALK OF FAME POSTER WINNERS

Robert Hart and Hongseok Noh – Second Place for Physical Implementation and Measurements Category: 2009 IEEE Graduate Forum Technical Poster Symposium

Poster: “Improved Protein Binding Rate for Biosensors using AC Electric Electro-osmosis” (Advisor: R. Lec)

Kevin Freedman and Dane Grasse – Award Winner Undergraduate Student Category for Computation, Modeling & Simulation (Biological): 2009 Drexel Research Day

Poster: “Seizure Detection Using a Novel Multi-Measurement Support Vector Machine Algorithm” (Advisor: K. Moxon)

Giang Au, Rosemary Bastian, Thao Nguyen, and Zankhana Patel – Honorable Mention Undergraduate Student Category for Biological & Biomedical Research: 2009 Drexel Research Day

Poster: “Non-Toxic ZnSe Quantum Dots Synthesis Optimization and Surface Modification for In-vivo Imaging Applications and Disease Diagnostics” (Advisors: W.Y. Shih and W.H. Shih)

Alessandro Scaglione, Guglielmo Foffani, Giulio Scannella, and Sergio Cerutti – Honorable Mention Graduate Student Category for Computation, Modeling, & Simulation (Biological): 2009 Drexel Research Day

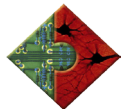
Poster: “Mutual Information Expansion for Studying the Role of Correlations in Population Codes: How Important are Auto-Correlations?” (Advisor: K. Moxon)

John Eisenbrey – First Place Martin Blomley Poster Prize for Medical Research: 14th European Symposium on Ultrasound Contrast Imaging Graduate Poster Competition

Poster: “Delivery of Encapsulated Doxorubicin for Sustained Intratumoral Release by Localized Size Reduction of Polymeric Ultrasound Contrast Agents” (Advisor: M. Wheatley)

Nicola Francis – First Place Graduate Category: 2008 ISPE National Poster Competition

Poster: “Optimization of Alginate Gel Fabrication for Maximal Neurite Growth In Vitro” (Advisor: M. Wheatley)



Commencement & Honors Celebration 2009

School of Biomedical Engineering, Science, & Health Systems

Greg Fridman, Moogega Cooper, Haibo Zhang, Shivanthi Anandan, Alexander Fridman, and John A. Nyheim – First Place Homeland Security Philadelphia Student Chapter Research Day Specialty Award

Poster: “Investigation of Dielectric Barrier Discharge Plasma Sterilization Capability on Gram Negative Bacteria”

Vishal Kamat, Peter Lelkes, Irwin Chaiken, and Elisabeth Papazoglou – Platinum Integra Foundation Entrepreneurial Technology Award for Potential for Rapid Translation to Health Care and Entrepreneurial Enterprise: 2009 Biomedical Talent and Technology Showcase

Poster: “New Insights on the Combined Use of Monoclonal Antibodies Targeting Epidermal Growth Factor Receptor for the Design of Future Biologics”

Sakya Mohapatra, Sundar Babu, Leonid Zubkov, Sreekant Murthy, and Elisabeth Papazoglou – Gold Integra Foundation Entrepreneurial Technology Award for Potential for Rapid Translation to Health Care and Entrepreneurial Enterprise: 2009 Biomedical Talent and Technology Showcase

Poster: “Quantum-Dot linked ImmunoSorbent Assay (QLISA) - A Practical Approach Towards Immunosensing in Micro Liter Volume”

Riddhiman Yadava – Silver Integra Foundation Entrepreneurial Technology Award for Potential for Rapid Translation to Health Care and Entrepreneurial Enterprise: 2009 Biomedical Talent and Technology Showcase

Poster: “Savior: The Artificial Limb”

Dane Grasse, Andrew Khair, and Karen Moxon – Platinum NetScientific Discovery Prize for Technology Most Likely To Become a Breakthrough Solution: 2009 Biomedical Talent and Technology Showcase

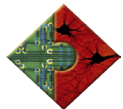
Poster: “Closed Loop BMI Device for Prediction and Prevention of an Epileptic Seizure”

Hasan Ayaz, Meltem Izzetoglu, Scott Bunce, Terry Heiman-Patterson, and Banu Onaral – Gold NetScientific Discovery Prize for Technology Most Likely To Become a Breakthrough Solution: 2009 Biomedical Talent and Technology Showcase

Poster: “Detecting Cognitive Activity Related Hemodynamic Signal for Brain Computer Interface using Functional Near Infrared Spectroscopy”

Hakki Yegingil, Shami Jagtap, Jeffrey Justin, Ari Brooks, Wei H. Shih, and Wan Y. Shih – Silver NetScientific Discovery Prize for Technology Most Likely To Become a Breakthrough Solution: 2009 Biomedical Talent and Technology Showcase

Poster: “Portable, Low Cost Piezoelectric Finger Breast Cancer Detector”



Commencement & Honors Celebration 2009

School of Biomedical Engineering, Science, & Health Systems

Kurtulus Izzetoglu, Anna Merzagora, Patricia Shewokis, Jan Horrow, Jerry Levitt, Meltem Izzetoglu, Scott Bunce, Kambiz Pourrezaei, and Banu Onaral – Gold Johnson & Johnson Innovation Award for Most Innovative Biomedical Technology: 2009 Biomedical Talent and Technology Showcase

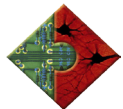
Poster: “Functional Near Infrared Spectroscopy Studies In Humans – Depth of Anesthesia Monitor”

Michael Cochran and Margaret Wheatley – Silver Johnson & Johnson Innovation Award for Most Innovative Biomedical Technology: 2009 Biomedical Talent and Technology Showcase

Poster: “Optimization of Ultrasound Parameters to Enhance Sonoporation Efficiency”

Pimchanok Pimton, Andrew Wu, Anat Perets, Pimporn Uttayarat, Mengyan Li, Russell Composto, Robert Levy, Ari Brooks, and Peter Lelkes – The Exponent Partnership Prize for Research that Demonstrates an Academic-Industrial Alliance Most Able To Cultivate the Next Generation of Biomedical Engineers Committed to Biomedical Solutions: 2009 Biomedical Talent and Technology Showcase

Poster: “LCL Grafts: Innovative Small Caliber Vascular Grafts for Coronary Bypass Operations”



STUDENT ACCOMPLISHMENTS AND HIGHLIGHTS

Giang Au, Rosemary Bastian, Thao Nguyen, Zankhana Patel Win First Place Prize in the 2009 BIOMED Senior Design Competition

Giang Au, Rosemary Bastian, Thao Nguyen, Zankhana Patel, all undergraduate students in BIOMED (Advisor: Wan Shih, Ph.D.), won the First Place Prize in the 2009 School of Biomedical Engineering, Science, and Health Systems Senior Design Competition for their project titled "Optimization of Synthesis Process and Surface Modification of Non-toxic ZnSe Quantum Dots for In-vivo Imaging and Diagnosis Application." The team was also selected to represent the School at the College of Engineering (CoE) Senior Design Competition, held June 3, 2009 in the Mitchell Auditorium of the Bossone Research Enterprise Center. The two Runner-Up teams are listed below and will be honored at the 2009 BIOMED Commencement and Honors Celebration.

Runner-Up: "Real-Time Intra-Operative Force Measurement Patellar Sensor System for Total Knee Arthroplasty"

Members: Daniel Alexander, Radha Bakshi, Victoria Ferrari, Ji Young Lo, Rajit Mathur

Advisors: Todd Doehring, Ph.D.

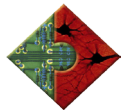
Runner-Up: "Refining the Scandinavian Total Ankle Replacement"

Members: Alexis Cohen, Tina Geevarghese, Elizabeth Henning, Julie Miller, Hina Patel

Advisors: Steven Kurtz, Ph.D., and Sorin Siegler, Ph. D.

Selena Lin, Doruk Baykal, and David Jaekel Win the First Place Prize in the 2009 Baiada Business Plan Competition

Selena Lin, undergraduate student in BIOMED, Doruk Baykal and David Jaekel, both graduate students in BIOMED (Advisor: Steven Kurtz), won the First Place Prize of \$3,000 in The Laurence A. Baiada Center for Entrepreneurship 2009 Business Plan Competition for their project titled "Urinanalysis: A Novel Liver-Cancer Screening Method."



Commencement & Honors Celebration 2009

School of Biomedical Engineering, Science, & Health Systems

Students Receive 2009 Division of Student Life and Undergraduate Student Government Association Awards

Each year the Division of Student Life and the Undergraduate Student Government Association recognize the outstanding contributions of student leaders, student organizations, and their advisors to the Drexel community. The Division of Student Life and the Undergraduate Student Government Association has selected the following students from the School of Biomedical Engineering, Science, and Health Systems as award winners for the 2008-2009 academic year:

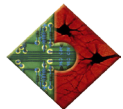
- **Dean J. Peterson Ryder Award for Seniors:** Selena Lin
- **Senior Vice President's Award:** Kristen Smith
- **Father Charles Brinkman Award:** Kristen Smith
- **Student Service Award:** Lauren Jablonowski
- **Ann H. Wilson Heinl Service for Commuter Students Award:** Selena Lin and Giang Au
- **Marilyn A. Burshtin Memorial Award:** Alexa Karkenny

Karl Reisig Wins the 2009 Rochester Engineering Society Susan L. Costa Memorial Scholarship, as well as the 2009 Tau Beta Pi National Engineering Honor Society Joseph W. Shimp Scholarship and the 2009 Drexel University Zung Pah Woo Scholarship

Karl Reisig, BS/MS student in BIOMED (Advisor: Alisa Clyne), was awarded the 2009 Rochester Engineering Society Susan L. Costa Memorial Scholarship in the amount of \$1,500 in recognition of his academic excellence and involvement in extra-curricular and community activities. The award was presented at the Rochester Engineering Society's 107th Annual Gala, held on March 14, 2009 at the Rochester Riverside Convention Center. Karl also received the 2009 Tau Beta Pi National Engineering Honor Society Joseph W. Shimp Scholarship and the 2009 Drexel University Zung Pah Woo Scholarship, the latter awarded by the Zung Pah Woo Biomedical Engineering Endowment.

Robert Hart Wins Second Place in the 2009 IEEE Graduate Forum Technical Poster Symposium

Robert Hart, graduate student in BIOMED (Advisor: Ryszard Lec), and Hongseok Noh, Assistant Professor in MEM, won second place in the 2009 IEEE Graduate Forum Technical Poster Symposium (Category: Physical Implementation and Measurements), held May 4, 2009 in the Bossone Research Enterprise Center, for their poster titled "Improved Protein Binding Rate for Biosensors using AC Electric Electro-osmosis."



Students Receive Poster Awards in Three Areas at the Annual Drexel Research Day 2009

Students from BIOMED won poster awards and honorable mentions in three categories at the Annual Drexel Research Day Awards held on April 23, 2009, at the Daskalakis Athletic Center. BIOMED had one Award Winner and two Honorable Mentions at this year's event. The names of the BIOMED award recipients are listed below:

Award Winner: Computation, Modeling & Simulation (Biological) – Undergraduate
“A Novel Multi-Measurement Support Vector Machine Algorithm for Seizure Detection” – Kevin Freedman, Dane Grasse, and Karen Moxon.

Honorable Mention: Biological & Biomedical Research – Undergraduate
“Non-Toxic ZnSe Quantum Dots Synthesis Optimization and Surface Modification for In-vivo Imaging Applications and Disease Diagnostics” – Giang Au, Rosemary Bastian, Thao Nguyen, Zankhana Patel, Wan Y. Shih, and Wei-Heng Shih.

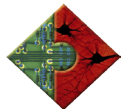
Honorable Mention: Computation, Modeling, & Simulation (Biological) – Graduate
“Mutual Information Expansion for Studying the Role of Correlations in Population Codes: How Important are Auto-Correlations?” – Alessandro Scaglione, Guglielmo Foffani, Giulio Scannella, Sergio Cerutti, and Karen Moxon.

Dheeraj Roy Is Awarded a Tau Beta Pi Scholarship for 2009–2010

Dheeraj Roy, BS/MS student in BIOMED (Advisor: Ken Barbee) was awarded a Tau Beta Pi Scholarship for 2009-2010 in the amount of \$2,000. This prestigious award recognizes Dheeraj's outstanding academic success at Drexel.

John Eisenbrey Wins the Martin Blomley Poster Prize for Medical Research in the Graduate Poster Competition at the 14th European Symposium on Ultrasound Contrast Imaging

John Eisenbrey, graduate student in BIOMED (Advisor: Margaret Wheatley), won the Martin Blomley Poster Prize for Medical Research in the graduate poster competition at the 14th European Symposium on Ultrasound Contrast Imaging, held in Rotterdam, The Netherlands, on January 22 - 23, 2009. John won the award for his poster titled “Delivery of Encapsulated Doxorubicin for Sustained Intratumoral Release by Localized Size Reduction of Polymeric Ultrasound Contrast Agents.”



Anmiv Prabhu Wins Best Presentation Award at the 2008 ASME IMECE Meeting

Anmiv Prabhu, graduate student in BIOMED (Advisor: MinJun Kim, MEM), won the Best Presentation Award at the 2009 American Society of Mechanical Engineers (ASME) International Mechanical Engineering Congress & Exposition (IMECE) meeting, held October 31 – November 6, 2008 in Boston, MA. Anmiv's presentation was part of the Microfluidics 2008 – Fluids Engineering in Micro- and Nanosystems Symposium.

Students Win Poster Competition in the “Spirit of Entrepreneurship in Life Saving Solutions” Biomedical Talent and Technology Showcase

The following teams were poster competition winners in the School of Biomed's “Spirit of Entrepreneurship in Life Saving Solutions” Biomedical Talent and Technology Showcase, held on Entrepreneurship Day, November 19, 2008 and in conjunction with the School's 10th/50th Anniversary Celebration:

The Integra Foundation Entrepreneurial Technology Awards for “Potential for Rapid Translation to Health Care and Entrepreneurial Enterprise”:

Platinum Level (\$1,500): V. Kamat, P. Lelkes, I. Chaiken, and E. Papazoglou for “New Insights on the Combined Use of Monoclonal Antibodies Targeting Epidermal Growth Factor Receptor for the Design of Future Biologics”

Gold Level (\$1,000): S. Mohapatra, S. Babu, L. Zubkov, S. Murthy, and E. Papazoglou for “Quantum-Dot linked ImmunoSorbent Assay (QLISA) – A Practical Approach Towards Immunosensing in Micro Liter Volume”

Silver Level (\$500): R. Yadava for “Savior: The Artificial Limb”

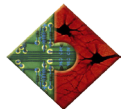
The NetScientific Discovery Prizes for “Technology Most Likely To Become a Breakthrough Solution”:

Platinum Level (\$1,500): D. Grasse, A. Khair, and K. Moxon for “Closed Loop BMI Device for Prediction and Prevention of an Epileptic Seizure”

Gold Level (\$1,000): H. Ayaz, M. Izzetoglu, S. Bunce, T. Heiman-Patterson, and B. Onaral for “Detecting Cognitive Activity Related Hemodynamic Signal for Brain Computer Interface using Functional Near Infrared Spectroscopy”

Silver Level (\$500): H. Yegingil, S. Jagtap, J. Justin, A. Brooks, W.H. Shih, and W.Y. Shih for “Portable, Low Cost Piezoelectric Finger Breast Cancer Detector”

The Johnson & Johnson Innovation Awards for “Most Innovative Biomedical Technology”:



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School of Biomedical Engineering, Science, & Health Systems

Gold Level (\$1,000): K. Izzetoglu, A. Merzagora, P. Shewokis, J. Horrow, J. Levitt, M. Izzetoglu, S. Bunce, K. Pourrezaei, and B. Onaral for “Functional Near Infrared Spectroscopy Studies In Humans – Depth of Anesthesia Monitor”

Silver Level (\$500): M. Cochran and M. Wheatley for “Optimization of Ultrasound Parameters to Enhance Sonoporation Efficiency”

The Exponent Partnership Prize for “Research that Demonstrates an Academic-Industrial Alliance Most Able To Cultivate the Next Generation of Biomedical Engineers Committed to Biomedical Solutions” (\$500): P. Pimton, A. Wu, A. Perets, P. Uttayarat, M. Li, R. Composto, R. Levy, A. Brooks, P. Lelkes for “LCL Grafts: Innovative Small Caliber Vascular Grafts for Coronary Bypass Operations”

Gregory Fridman Wins 2009 Outstanding Student in Plasma Science Award

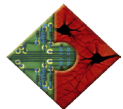
Gregory Fridman, graduate student in BIOMED (Advisor: Ken Barbee), has been selected to receive the 2009 Outstanding Student in Plasma Science Award on behalf of the IEEE Nuclear and Plasma Science Society (NPSS). The award of this international competition consists of a certificate and \$1,000 and will be presented to Gregory at the 2009 ICOPS in San Diego, CA.

Priyanka Shah, Stefanie Hallman, Ji Young Lo Win First Place at the Baiada Center's “Innovations for the Aging Baby Boomer Market” Student Concept Competition

Priyanka Shah, Stefanie Hallman, Ji Young Lo, all BS/MS students in BIOMED (Advisor: Don McEachron), won first place at the Laurence A. Baiada Center for Entrepreneurship in Technology “Innovations for the Aging Baby Boomer Market” Student Concept Competition for their project “A Chronobiological Approach to Alzheimer's Disease Management.” The competition was held on November 17, 2008 during Global Entrepreneurship Week in the Bossone Research Enterprise Center's Mitchell Auditorium and was judged by industry experts, including Dr. C. Everett Koop, former Surgeon General of the United States.

Nicola Francis Wins First Prize in the Graduate Category of the 2008 International Society of Pharmaceutical Engineers (ISPE) National Poster Competition

Nicola Francis, graduate student in BIOMED (Advisor: Margaret Wheatley), won first prize in the graduate student category of the 2007 ISPE (International Society of Pharmaceutical Engineers) national student poster competition, held at the ISPE Annual Meeting in Boca Raton, Florida, October 26-29, 2008. Nicola won for her poster titled, “Optimization of Alginate Gel Fabrication for Maximal Neurite Growth In Vitro” and received a cash prize of \$500.



Alimatou Minkeu Receives a Susan G. Komen for the Cure – AACR Minority Scholar Award

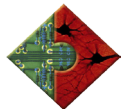
Alimatou Minkeu, graduate student in BIOMED (Advisors: Don McEachron and Andrew Quong), received a Susan G. Komen for the Cure-American Association for Cancer Research (AACR) Minority Scholar Award in the amount of \$1,200 from the San Antonio Breast Cancer Symposium in recognition of her paper on translational breast cancer research. Alimatou attended the 31st Annual Cancer Therapy & Research Center-American Association for Cancer Research (CTRC-AACR) San Antonio Breast Cancer Symposium on December 10-14, 2008 in San Antonio, Texas, where she presented her paper titled "Protein Expression Comparison and Physiological Profiling of Matched Pairs DCIS/Normal and Invasive/Normal Primary Epithelial Cells."

Cristin MacDonald Wins NIH Ruth L. Kirschstein National Research Service Award (NRSA)

Cristin MacDonald, graduate student in BIOMED (Advisor: Ken Barbee), received the NIH Ruth L. Kirschstein National Research Service Award (NRSA). Cristin will receive a \$20,772 per year stipend and an annual institutional allowance for scientific conferences. Her research project is titled "Characterization of Magnetic Nanoparticle Transport through Soft Tissues."

Daniel Mollicone Wins Most Promise in Enhancing Drexel's Reputation in the Future in the Physical and Life Sciences Award

Daniel Mollicone, doctoral student in BIOMED (Advisor: Banu Onaral), was awarded the prize for Most Promise in Enhancing Drexel's Reputation in the Future in the Physical and Life Sciences by the Office of Graduate Studies during a ceremony recognizing the winners of this year's Outstanding Ph.D. Graduates awards contest. The award includes a trophy and cash prize of \$1,000 and was presented at the Doctoral Hood Ceremony on June 13, 2008 in Mandell Theater.



FACULTY AND STAFF AWARDS AND HONORS

FACULTY AND STAFF ACCOMPLISHMENTS AND HIGHLIGHTS

BIOMED Faculty Members Receive 2009 Wallace H. Coulter Translational Research Grants

The following BIOMED faculty members received a 2009 Wallace H. Coulter Translational Research Grant:

Dr. Elisabeth Papazoglou, Assistant Professor in BIOMED, Dr. Sreekant Murthy (CoM), and Dr. James Reynolds (CoM), received \$100,000 in Coulter funding for the project titled "QLISA for Detection of Inflammatory Markers."

Dr. Wan Y. Shih, Associate Professor in BIOMED, Dr. Wei H. Shih (MES), and Dr. Ari Brooks (CoM), received \$100,000 in Coulter funding for the project titled "Portable Breast Elasticity and Mobility Measurement for Tumor Location and Malignancy Screening."

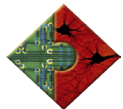
Dr. Kurtulus Izzetoglu, Research Assistant Professor in BIOMED, Dr. Kambiz Pourrezaei, Professor in BIOMED, and Dr. Jay Harrow (CoM), received \$93,000 in Coulter funding for the project titled "Functional Near-infrared Spectroscopy as a Monitor for Depth of Anesthesia."

Dr. Ken Barbee, Associate Professor in BIOMED, Dr. Michele Marcolongo (MSE), Dr. Caroline Schauer (MSE), and Dr. Edward Vresilovic (Hershey Medical Center), received \$100,000 in Coulter funding for the project titled "Treatment of Lower Back Pain Utilizing a Biomimetic Aggrecan Injection."

Dr. Peter Lelkes, Calhoun Chair Professor of Cellular Tissue Engineering in BIOMED, Dr. Elisabeth Papazoglou, Assistant Professor in BIOMED, and Professor Michael Weingarten (CoM), received \$100,000 in Coulter funding for the project titled "Bioactive Alimentary Protein - Based Scaffolds (APS) for Wound Healing and Regenerative Medicine."

Dr. Andres Kriete's Multiscale Simulation of Human Lung Program To Be Included in Stanford's Biosim / Sim-TK Modeling Repository

Dr. Andres Kriete, Associate Professor in BIOMED, and his team's program for human lung modeling and simulation was accepted for inclusion in Stanford's Biosim / Sim-TK modeling repository. LungSim has a long history of development and received initial funding from the German Science Foundation and more recently from the National Institute of Biomedical Imaging and Bioengineering (NIBIB) at NIH as part of the multi-scale imaging initiative of the Interagency Modeling and Analysis Group (IMAG). The software was featured at the IMAG



meeting in Montreal, as well as at the International Summit on Future of Quantitative and Functional Lung Imaging in Iowa in October 2008.

Dr. Arye Rosen Receives a MITRE Innovation Grant for the Development of a Wireless Microwave System for Monitoring Elevated Intracranial Pressure

Dr. Arye Rosen, Academy Professor of Biomedical and Electrical Engineering, received a MITRE innovation grant in the amount of \$111,000 for the period of October 2008 – September 2009, which involves a partnership between Dr. Rosen and The MITRE Corporation. This grant is for the development of a wireless microwave system for the monitoring of elevated intracranial pressure caused by traumatic brain injuries received during military combat.

Dr. Arye Rosen Is Invited as a Distinguished Speaker at the Fitzpatrick Institute for Photonics' 2008 Fall Seminar Series and as a Plenary Speaker at the 33rd International Conference on Infrared, Millimeter, and Terahertz Waves

Dr. Arye Rosen, Academy Professor of Biomedical and Electrical Engineering, was invited as Distinguished Speaker at the Fitzpatrick Institute for Photonics' 2008 Fall Seminar Series, held September 9, 2008 at Duke University, Durham NC, and also as a Plenary Speaker at the 33rd International Conference on Infrared, Millimeter, and Terahertz Waves, held September 15 – 19, 2008 at the California Institute of Technology, Pasadena, CA. Dr. Rosen's lecture for both events was titled "The Role of Engineering Principles in the Medical Utilization of Electromagnetic Energies."

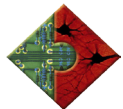
Dr. Ayden Tozeren Publishes Three Recent Articles in BMC Medical Genomics, BMC Genomics and BMC Bioinformatics

Dr. Ayden Tozeren, Professor and Director of Integrated Bioinformatics in BIOMED, and team members, published the following recent articles:

"Prediction of HIV-1 Virus-host Protein Interactions using Virus and Host Sequence M" – A. Tozeren, P. Evans, W. Dampier, and L. Ungar, BMC Medical Genomics, May 18, 2009.

"Human and Mouse Switch-like Genes Share Common Transcriptional Regulatory Mechanisms for Bimodality" – A. Tozeren and A. Ertel, BMC Genomics, December 23, 2008.

"Expression Profiles of Switch-like Genes Accurately Classify Tissue and Infectious Disease Phenotypes in Model-based Classification" – A. Tozeren and M. Gormley, BMC Bioinformatics, November 17, 2008.



Dr. Aydin Tozeren Hosts the Greater Philadelphia Bioinformatics Alliance (GPBA) Annual Research Retreat and Poster Competition

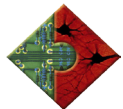
Dr. Aydin Tozeren, Professor and Director of Integrated Bioinformatics in BIOMED, hosted the Greater Philadelphia Bioinformatics Alliance (GPBA) Annual Research Retreat and Poster Competition, held November 6, 2008 in the Bossone Research Enterprise Center. The poster presentations by graduate students were a main focus of the program, which presented an excellent opportunity for doctoral students from different institutions to meet each other, as well as faculty and scientists from academia and industry.

Drs. Banu Onaral and Baruch Ben Dor Are Cited in the 2009 Better World Report for Their Work on bringing the InfraScanner Handheld Optical Hematoma Detector from Bench-to-Bedside

Dr. Banu Onaral, H. H. Sun Professor and Director, School of Biomedical Engineering, Science and Health Systems, and Dr. Baruch Ben Dor, Research Associate Professor in BIOMED and CEO, InfraScan, were cited in the 2009 Better World Report for their work on bringing the InfraScanner handheld optical hematoma detector from bench-to-bedside. The report also recognized both the pioneering work of Dr. Claudia Robertson, a leading neurosurgeon in the Department of Neurology at Baylor College of Medicine in Houston and Dr. Britton Chance, professor emeritus of biophysics, physical chemistry and radiologic physics at the University of Pennsylvania, and the translational research work done by Dr. Onaral and Drexel University. For the complete story, please visit page 52 at the following link: http://www.betterworldproject.org/documents/AUTM09BWR_FNL.pdf

Drs. Banu Onaral, Elisabeth Papazoglou, Kambiz Pourrezaei, and Meltem Izzetoglu Receive DOD Telemedicine and Advanced Technology Research Center (TATRC) Grant for Their Project “Response Technologies for Complex Medical Emergencies.”

Dr. Banu Onaral, H. H. Sun Professor and Director of the School of Biomedical Engineering, Science and Health Systems (PI), and Co-PI's Elisabeth Papazoglou, Assistant Professor in BIOMED, Kambiz Pourrezaei, Professor in BIOMED, Paul Oh, Associate Professor in MEM, Meltem Izzetoglu, Research Assistant Professor in BIOMED, Alexander Fridman, John A. Nyheim Chair Professor in MEM, and Richard Hamilton, Associate Professor in CoM, were awarded a DOD Telemedicine and Advanced Technology Research Center (TATRC) grant in the amount of \$2.75 million for the period October 1, 2008 – March 31, 2010 for their project “Response Technologies for Complex Medical Emergencies.”



Dr. Banu Onaral Appears in Philadelphia Business Journal Article on Drexel's Receiving a Keystone Innovation Grant

Dr. Banu Onaral, H. H. Sun Professor and Director of the School of Biomedical Engineering, Science and Health Systems, appeared in the September 26, 2008 edition of the Philadelphia Business Journal to discuss the \$200,000 Keystone Innovation Grant that Drexel University received from the State of Pennsylvania. The grant was one of seven Keystone Innovation Grants totaling slightly more than \$1 million that the Dept. of Community and Economic Development awarded this month to one college and six universities in the area. The article can be viewed at: http://www.bizjournals.com/philadelphia/stories/2008/09/29/story11.html?ana=from_rss

Drs. Donald McEachron, Fred Allen and Elisabeth Papazoglou Receive an NSF Grant for Their Engineering Education in Context Project

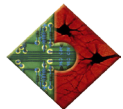
Drs. Donald McEachron, Research Professor and Associate Director in BIOMED (PI), Rami Seliktar, Professor and Vice Director in BIOMED (Co-PI), Elisabeth Papazoglou, Assistant Professor in BIOMED (Co-PI), Fred Allen, Assistant Professor in BIOMED (Co-PI), and Sheila Vaidya, Associate Professor in the School of Education (Co-PI), were awarded an NSF grant in the amount of \$500,000 for the period January 1, 2009 – December 31, 2011, for their project titled, "Engineering Education in Context: An Evidence Based Intervention System."

Dr. Donald McEachron Is Noted in Terre Haute News Article on Assessing Student Performance

Dr. Donald McEachron, Research Professor and Associate Director in BIOMED, was noted in an April 15, 2009 Terre Haute News article about an upcoming conferencing to examine different ways of assessing student performance. The article can be viewed at: http://www.tribstar.com/schools/local_story_104210330.html

Dr. Dov Jaron is Elected to the Executive Board of the International Council for Science (ICSU)

Dr. Dov Jaron, Calhoun Distinguished Professor of Engineering in Medicine in BIOMED, was elected to the Executive Board of the International Council for Science (ICSU). As a one of 14 Board members, Dr. Jaron will work with a Nobel laureate, university rector and members of various science academies and will form the link between ICSU and the US National Science Academy (which is a member of ICSU). Dr. Jaron's election to the Executive Board of ICSU places a Drexel representative at the apex of one of the most prestigious international scientific organizations dealing with interdisciplinary global issues and representing more than 2 million scientists and engineers world-wide.



Dr. Dov Jaron is Appointed to the International Review Board of the Institute of Biocybernetics and Biomedical Engineering (IBIB) of the Polish Academy of Sciences

Dr. Dov Jaron, Calhoun Distinguished Professor of Engineering in Medicine in BIOMED, was appointed to the International Review Board of the Institute of Biocybernetics and Biomedical Engineering (IBIB) of the Polish Academy of Sciences. The Review Board consists of three members, one each from Austria, Belgium, and the United States.

Dr. Elisabeth Papazoglou and the Near Infrared (NIR) Diagnostics Team Win the Michelson Grand Prize and People's Choice Award at the 2009 Wharton Business Plan Competition

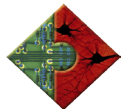
Dr. Elisabeth Papazoglou, Assistant Professor in BIOMED, and the Drexel-Penn NIR Diagnostics team won Michelson Grand Prize and People's Choice Award at the 2009 Wharton Business Plan Competition. The NIR wound technology was developed at Drexel University and is based on the discovery of Dr. Britton Chance, professor emeritus of biophysics, physical chemistry and radiologic physics at the University of Pennsylvania, and was funded in part by the Telemedicine and Advanced Technologies Research Center (TATRC) and the Coulter Translational Partnership Funds. The Drexel-Penn team also won the People's Choice Award, as voted by the participants at the competition. The Drexel team, led by Drs. Elisabeth Papazoglou, Michael Weingarten (CoM), Leonid Zubkov (BIOMED), Kambiz Pourrezaei (BIOMED), and Michael Niedrauer (BIOMED), along with the Wharton team, led by Armen Karamanian, Pitamber Devgon, Bosun Hau and Xiaoming Fang, received \$20,000 cash for the Michelson Grand Prize and an additional \$3,000 for winning the People's Choice Award.

Dr. Elisabeth Papazoglou Receives an NSF Chemical, Bioengineering, Environmental, and Transport Systems (CBET) Grant for "The Dynamics of the HIV Virological Synapse" Project

Dr. Elisabeth Papazoglou, Assistant Professor in BIOMED (PI), and Dr. Irwin Chaiken, Professor in CoM (Co-PI), received an NSF Chemical, Bioengineering, Environmental, and Transport Systems (CBET) grant in the amount of \$400,000 for a period of three years for their project titled "The Dynamics of the HIV Virological Synapse."

Drs. Elisabeth Papazoglou and Peter Lelkes Receive an NSF Course, Curriculum and Laboratory Improvement (CCLI) Grant for "Smart Biomaterials for Tissue Regenerative Engineering" Project

Dr. Elisabeth Papazoglou, Assistant Professor in BIOMED (PI), Dr. Peter Lelkes, Calhoun Chair Professor of Cellular Tissue Engineering in BIOMED (Co-PI), Dr. Anthony Lowman, Professor in CBE (Co-PI), and Dr. Michele Marcolongo (Co-PI),



Associate Professor in MSE, received an NSF Course, Curriculum and Laboratory Improvement (CCLI) grant of \$150,000 for a period of two years for their project titled “Smart Biomaterials for Tissue Regenerative Engineering.”

Dr. Greg Fridman and Teammates Win First Place for the Homeland Security Philadelphia Student Chapter Research Day Specialty Award

Greg Fridman, Research Assistant Professor in BIOMED and Co-Director of the Plasma Biology and Medicine Lab, A.J. Drexel Plasma Institute, and his teammates Moogega Cooper, graduate student in MEM, Haibo Zhang, graduate student in CoE, Dr. Shivanthi Anandan, Associate Professor in the Dept. of Bioscience and Biotechnology, and Dr. Alexander Fridman, John A. Nyheim Chair Professor in MEM, won First Place for the Homeland Security Philadelphia Student Chapter Research Day Specialty Award for the poster “Investigation of Dielectric Barrier Discharge Plasma Sterilization Capability on Gram Negative Bacteria.” The award was presented during a ceremony at Nesbitt Hall on May 8, 2009.

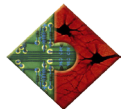
Dr. Karen Moxon Appears in Asia One Business Article on Winning Strategies for Technology Commercialization

Dr. Karen Moxon, Associate Professor in BIOMED, was cited in a February 10, 2009 Asia One Business article on “Winning with a Strategy for Commercialization.” The article can be viewed at:

<http://business.asiaone.com/Business/SME+Central/Prime+Movers/Story/A1Story20090210-120851.html>

Drs. Kurtulus Izzetoglu, Kambiz Pourrezaei, Meltem Izzetoglu, and Patricia Shewokis Receive DOT – Federal Aviation Administration (FAA) Pass-Thru Grant for FAA Data Communications Human Factors Assessment Study

Dr. Kurtulus Izzetoglu, Research Assistant Professor in BIOMED (PI), Dr. Kambiz Pourrezaei, Professor in BIOMED (Co-PI), Dr. Meltem Izzetoglu, Research Assistant Professor in BIOMED (Co-PI), and Dr. Patricia Shewokis, Associate Professor in CoNHP (Co-PI), received a grant from BAE Systems Technology Solutions & Services Inc. in the amount of \$250,000 to support the FAA Data Communications Human Factors Assessment Study for a period of one year. Their project is titled “Comparative Assessment of Cognitive Processing Demands in Data Communication and Legacy Air Traffic Control Environments.”



Dr. Kurtulus Izzetoglu and Hasan Ayaz Appear in WPVI-TV (6-ABC) Interview on Brain Monitoring Technology and the InfraScanner

Dr. Kurtulus Izzetoglu, Research Assistant Professor in BIOMED, and Hasan Ayaz, graduate student in BIOMED (Advisor: B. Onaral), were featured in an interview on WPVI-TV (6-ABC) regarding brain monitoring technology and the InfraScanner, the hand-held optical hematoma detector developed by InfraScan Inc., which is a spin off of the joint Drexel-Penn Optical Brain Monitoring team. The interview is available at the following site: <http://abclocal.go.com/wpvi/story?section=news/health&id=6355303>

Laurie Lenz Presents “Networking in the Virtual World and Beyond: How to Get LinkedIn to FaceBook and YouTube” at the National Academic Advising Association Regional Conference and to the Middle Atlantic Career Counseling Association

Laurie Lenz, Academic Advisor in BIOMED, presented “Networking in the Virtual World and Beyond: How to Get LinkedIn to FaceBook and YouTube” at the National Academic Advising Association (NACADA) regional conference on March 17, 2009 in Dover, Delaware. The presentation explored the ins and outs of the popular online networks and how they affect us as career and advising professionals. Laurie also presented her talk to the Middle Atlantic Career Counseling Association on November 5, 2008.

Dr. Peter Lelkes Chairs the NASA Peer Review Panel on Microgravity and Animal Cell Biology

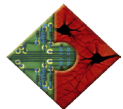
Dr. Peter Lelkes, Calhoun Chair Professor of Cellular Tissue Engineering in BIOMED, chaired the NASA Peer Review Panel on Microgravity and Animal Cell Biology on January 12 – 13, 2009.

Dr. Peter Lelkes Receives Neilsen Foundation Grant for Axonal Recovery through Angiogenesis Project

Dr. Peter Lelkes, Calhoun Chair Professor of Cellular Tissue Engineering in BIOMED, has received a grant in the amount of \$250,000 for two years from the Neilsen Foundation for the project entitled “Novel Approaches To Promote Axonal Recovery through Angiogenesis.”

Dr. Peter Lelkes and Dr. Ilya Rybak Receive Drexel Research Achievement Award

Dr. Peter Lelkes, Calhoun Chair Professor of Cellular Tissue Engineering in BIOMED, and Dr. Ilya Rybak, Research Professor in BIOMED and CoM, each received a Drexel University Research Achievement Award and were honored for their research excellence and accomplishments at the Faculty Recognition Dinner on Wednesday, June 4, 2008 in Behrakis Grand Hall.



Dr. Peter Lelkes Participates in the European Council Peer Review Panel on Regenerative Medicine and Stem Cell Therapies

Dr. Peter Lelkes, Calhoun Chair Professor of Cellular Tissue Engineering in BIOMED, participated in the European Council Peer Review Panel on February 9 – 13, 2009, to evaluate the FP7 consortium translation proposals in Regenerative Medicine and Stem Cell Therapies.

Dr. Peter Lewin Is Elected as a Member of the Technical Standards Committee of the American Institute of Ultrasound in Medicine

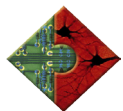
Dr. Peter A. Lewin, Richard B. Beard Distinguished University Professor of Biomedical and Electrical and Computer Engineering, and Director of the Biomedical Ultrasound Research and Education Center, was elected as a member of the prestigious Technical Standards Committee of the American Institute of Ultrasound in Medicine for the period April 1, 2009 – March 31, 2011.

Dr. Peter Lewin Delivers Invited Talks at the International Congress on Ultrasonics

Dr. Peter A. Lewin, Richard B. Beard Distinguished University Professor of Biomedical and Electrical and Computer Engineering, and Director of the Biomedical Ultrasound Research and Education Center, delivered an invited plenary talk on “Nonlinear Acoustics Applications in Biomedical Ultrasonics” at the International Congress on Ultrasonics, held in Santiago, Chile, January 11-19, 2009. He also presented an invited talk there titled “Challenges and Advances in Medical Ultrasound Metrology.”

Dr. Peter Lewin Is Re-appointed as a Consultant to the Food and Drug Administration (FDA) Center for Devices and Radiological Health

Dr. Peter A. Lewin, Richard B. Beard Distinguished University Professor of Biomedical and Electrical and Computer Engineering, and Director of the Biomedical Ultrasound Research and Education Center, has been re-appointed as a consultant to the Food and Drug Administration (FDA), Center for Devices and Radiological Health. His appointment is valid for the next four years and will be up for renewal in July 2012.



Dr. Raphael Lee and Dr. Elaine Thompson Are Elected to the Drexel 100 Most Distinguished Alumni

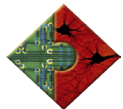
Dr. Raphael Lee, M.D., Ph.D., Professor of Plastic Surgery, Dermatology, Biomechanics and Molecular medicine, University of Chicago Medical Center, who received his MS degree from the Biomedical Engineering and Science Institute (precursor to the School of Biomedical Engineering, Science and Health Systems) in 1975, and Dr. Elaine Thompson, Ph.D., President of Lankenau Hospital, who received her Ph.D. from the Biomedical Engineering and Science Institute in 1991, were elected to the Drexel 100 Most Distinguished Alumni. Their election to the Drexel 100 is especially meaningful since it coincides with the 10th Anniversary of the School of Biomedical Engineering, Science and Health Systems and the 50th Anniversary of the Biomedical Engineering and Science Institute, reaffirming the recognition of their outstanding achievements by their peers and elevating the prestige of our School.

Shirin Karsan Receives Fulbright Fellowship To Conduct Research on Muslim Perspectives on the Ethics of Emerging Sciences and Bionanotechnologies

Shirin Karsan, Industry Liaison at the A.J. Drexel Nanotechnology Institute, and current Master of Bioethics student at the University of Pennsylvania, was awarded a Fulbright Fellowship and will conduct research on Muslim Perspectives on the Ethics of Emerging Sciences and Bionanotechnologies in the United Arab Emirates for the academic year 2009–2010. Shirin is currently working with the Drexel-Penn Optical Brain Imaging team, with the goal of earning a Ph.D. in the School of Biomedical Engineering, Science & Health Systems.

Dr. Vladimir Genis and Colleagues Receive NSF Grant for “Development of the Laboratory-Based Course in Lean Six Sigma Nanomanufacturing”

Dr. Vladimir Genis (PI), Affiliate Professor in BIOMED and Associate Professor at Goodwin College and Applied Engineering Technology (AET) program director, Dr. Michael Mauk (Co-PI), Assistant Professor, AET program, Goodwin College, and Dr. Yury Gogotsi (Co-PI), Professor in CoE, received a \$150,000 National Science Foundation (NSF) grant for “Development of the Laboratory-Based Course in Lean Six Sigma Nanomanufacturing.” The goal of the proposed two-year project is to implement the Introduction to Nanotechnology course developed for Goodwin College undergraduate AET students. The project represents an innovative approach for expanding this course into a hands-on laboratory and project-based learning experience using the Lean Six Sigma methods and principles. This unique combination of learning, training and assessment will contribute to the knowledge base of undergraduate STEM (Science, Technology, Engineering, Mathematics) education, research and practice.



Dr. Wan Shih Is Awarded as Co-Principal Investigator for Department of Defense Breast Cancer Research Program (BCRP) Grant for Near Infrared Quantum Dot Imaging Project

Dr. Wan Shih, Associate Professor in BIOMED, was recommended as Co-PI for a Concept Award from the Department of Defense Breast Cancer Research Program (BCRP) of the Office of the Congressionally Directed Medical Research Programs (CDMRP) in the amount of \$112,500 for the period July 1, 2009 - June 30, 2010. This concept award will allow initial study of applying near infrared quantum dot imaging for clear margin determination during breast cancer surgery.

Dr. Wan Shih and Colleagues Are Issued a U.S. Patent for Piezoelectric Cantilever Sensors

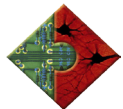
Dr. Wan Shih, Associate Professor in BIOMED, Dr. Wei Shih, Professor in MSE, and Dr. Zuyan Shen, in MSE, were awarded a patent for their technology "Piezoelectric Cantilever Sensors," Patent No. 7,458,265, issued December 2, 2008. This issuance of this patent re-affirms the leadership of this innovative technology in the competitive field of biosensing and ensures its commercialization prospect in many different clinical applications ranging from cancer marker to infectious disease detections in real time.

Dr. Wan Shih and Colleagues Obtain Approval for a U.S. Patent for All Electrical Piezoelectric Finger Sensor (PEFS)

Dr. Wan Shih, Associate Professor in BIOMED, Dr. Wei Shih, Professor in MSE, along with Anna Markidou, Steven Szewczyk, and Hakki Yegingil, all graduate students in MSE, obtained approval for a patent for their technology "All Electrical Piezoelectric Finger Sensor (PEFS)," US Patent Application No. 10/493,094, on November, 2008. This issuance of this patent permits this pioneering tissue elasticity sensor technology be applied to many clinical applications from non-invasive disease/cancer detection to haptic application in surgery.

Dr. Wan Shih Is Awarded as Principal Investigator for Nanotechnology Institute (NTI) Grant for Piezoelectric Microcantilever Sensors Project

Dr. Wan Shih, Associate Professor in BIOMED, was awarded as PI a multi-institution core grant of \$500,000 that involves Drexel, Fox Chase Cancer Center, and Temple University from the Nanotechnology Institute for the duration of September 1, 2009 – December 31, 2010. This grant is for the development of piezoelectric microcantilever sensors for marker protein, antibody, and cells detection in sera for early cancer detection and therapeutic monitoring.

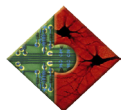


Dr. Wan Shih Is Awarded as Co-Principal Investigator for State of Pennsylvania Tobacco Grant for Piezoelectric Microcantilever Sensors Project

Dr. Wan Shih, Associate Professor in BIOMED, was awarded as Co-PI for a State of Pennsylvania Tobacco Grant for \$75,000 for drug resistant infection detection for the duration January 1, 2009 – December 31, 2009. This seed grant will allow initial study of applying piezoelectric microcantilever sensor technology for early detection of drug-resistant, hospital acquired infections.

BIOMED Receives \$500,000 Grant from NetScientific To Provide Follow-On Funding to Biomedical Technologies

The School of Biomedical Engineering, Science and Health Systems received a grant for \$500,000 for a period of one year, with the possibility of renewal in the same amount for each of the four subsequent years, to provide follow-on funding to biomedical technologies under development in the scope of the School's translational research program. Successful progress of this program will qualify the School for the Coulter Foundation Translational Research Endowment.



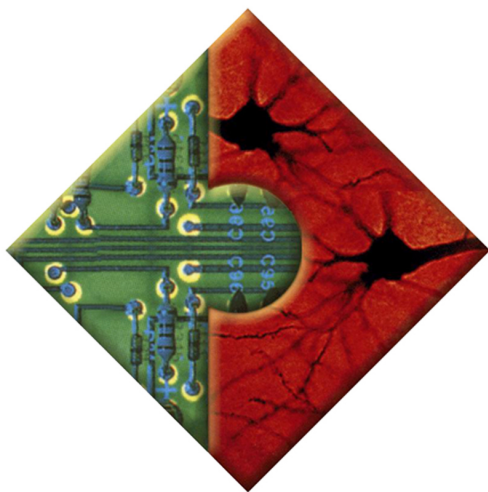
Commencement & Honors Celebration 2009

School of Biomedical Engineering, Science, & Health Systems



COMMENCEMENT & HONORS CELEBRATION 2009

School of Biomedical Engineering, Science & Health Systems



School of Biomedical Engineering, Science & Health Systems

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